

REMARKS

This application has been reviewed in light of the Office Action dated January 19, 2007. Claims 1-5 are presented for examination. Claim 1 has been amended to define still more clearly what Applicant regards as his invention. Claim 1 is in independent form. Favorable reconsideration is requested.

Claim 1 has been amended pursuant to paragraphs [0026] and [0031]. By applying the electric field to the ejected ultra-fine particles, the electric dipoles of the particles are aligned. Therefore, it is possible to make a piezoelectric element without including a separate polarizing treatment [0014]. Since a separate polarizing treatment is not required after the piezoelectric film is formed, then no high temperature polarizing step is needed and strain and stress engendered by such high temperature treatments are eliminated and an element with excellent performance is provided [0015] [0026] - [0027].

Previously, to impart piezoelectric properties to a sintered compact, a polarizing step, conducted at temperatures of 100° C - 150° C for ½ to one hour, was necessary [0009]. Since the sintered compact is polycrystalline, the individual grains are gradually deformed by applying heat over an extended period and orientations of electric dipoles of the grains are displaced [0009].

Claims 1-5 were rejected as obvious over [0002] - [0011] as admitted prior art combined with Huggins '268 or Japanese Patent '119. The Examiner admits the admitted state of art [0002] - [0011] fails to teach applying the electric field to ultra-fine particles traveling toward a substrate. The Examiner argues the artisan of ordinary skill would have had a reasonable expectation of success regardless of whether the particles were polarized prior to or

after application to a substrate. That ground of rejection is respectfully traversed.

To establish a *prima facie* case of obviousness, there must first be some suggestion or motivation in the reference or in the art to modify the reference. Second, there must be reasonable expectation of success. Finally, the reference or combined references must suggest all the claim limitations. The Examiner has failed to establish a *prima facie* case of obviousness.

The admitted state of the art completely fails to teach or suggest applying the electric field to particles while traveling toward the substrate by applying a potential difference to either the ejecting means or to the vicinity of the ejecting means and the substrate. Therefore, the admitted state of the art fails to render the present claims unpatentable. The defects and deficiencies of the admitted state of the art are not remedied by Huggins '268 or Japanese Patent '119.

Huggins fails to teach or suggest applying a potential between an ejecting device or to a vicinity thereof and a substrate in order to polarize ultra-fine particles. Instead, in Huggins '268, particles of a material are dislodged from target 28 by argon ions. See Col. 3, lines 38 - 46. To the contrary, applicant employs an ejecting device to propel ultra-fine particles toward the substrate. No such ejecting device is employed in Huggins '268. Instead, argon ions merely dislodge particles from a target. In Huggins '268, therefore, no electric field is applied between an ejecting device(or its vicinity) and a substrate.

Japanese Patent '119 is subject to the same deficiencies as Huggins. In Japanese Patent '119 an electric field is formed between plate-type electrodes 2 and 3. In Fig. 2 of Japanese Patent '119 particles 1 are sprayed between the electrodes 2, 3 and are subjected to

electric field 4. In Japanese Patent '119 no field is formed between an ejecting device and a substrate.

Therefore, the combination of references fails to teach all the claim limitations and, accordingly, no *prima facie* case of obviousness is raised M.P.E.P §§ 2143. The combination of references fails to teach, *inter alia*, applying a potential between an ejecting device or it's vicinity and a substrate. Since no *prima facie* case of obviousness has been raised, there is no need to rebut a non-existent presumption of obviousness by showing unexpected results.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

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